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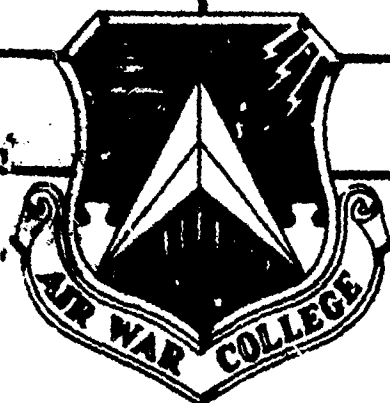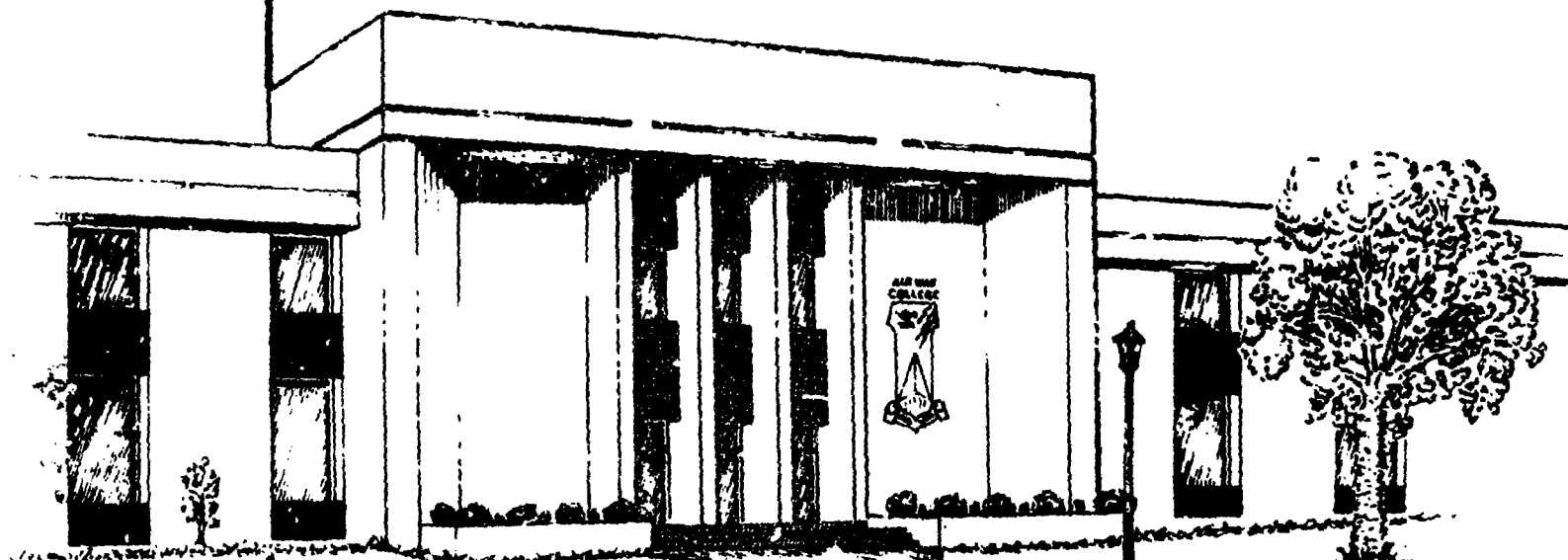
AIR WAR COLLEGE

RESEARCH REPORT

PSYCHOLOGICAL TYPE: AN ASSESSMENT AND
APPLICATIONS FOR SENIOR AIR FORCE LEADERSHIP

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AIR UNIVERSITY
UNITED STATES AIR FORCE
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AIR WAR COLLEGE
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PSYCHOLOGICAL TYPE: AN ASSESSMENT
AND APPLICATIONS FOR SENIOR AIR FORCE LEADERSHIP

by
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Colonel, USAF

A RESEARCH REPORT SUBMITTED TO THE FACULTY

IN

FULFILLMENT OF THE RESEARCH
REQUIREMENT

Research Advisor: Dr. Barton J. Michelson

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AIR WAR COLLEGE RESEARCH REPORT ABSTRACT

TITLE: Psychological Type: An Assessment and Applications
for Senior Air Force Leadership

AUTHOR: Samuel F. Hatfield, Jr., Colonel, USAF

The understanding and knowledge of psychological
type as determined by the Myers-Briggs Type Indicator (MBTI)
is an important tool for command and leadership in the
military. After reviewing the theory of psychological type,
the results of the MBTI for the Air War College (AWC)
classes of 1987 and 1988 were analyzed and assessed to
determine implications for future senior Air Force
leadership. The ideal traits desired of the top leaders of
organizations were examined. It was discovered that the
predominant psychological types at the AWC were more likely
to establish an organization which was less apt to have the
ability to manage change or to take the necessary risks
required in the rapidly changing, complex environment of
future warfare. One solution is to have more innovative,
intuitive leaders who are more creative and adaptive to
these requirements. To foster this ideal leadership, the
proper organizational culture must be established for future
success. Four applications of the MBTI are proposed to
improve the effectiveness of Air Force organizations by
developing the leadership to modify the culture. (SDW)

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BIOGRAPHICAL SKETCH

Colonel Samuel F. Hatfield, Jr. (MS Industrial Management, University of North Dakota) has been interested in leadership and management since completing his graduate work in 1970. During his career, he has held various command and staff positions in missile operations, acquisition, and congressional affairs. He completed an Education-With-Industry assignment at the Lockheed California Company and an executive management seminar at the University of Southern California. In his last assignment, he served as the Command r of the Northrop Corporation Air Force Plant Representative Office in Hawthorne, California from 1985-1987. His decorations include the Air Force Meritorious Service Medal with three oak leaf clusters, the Air Force Commendation Medal, and the Combat Readiness Medal. Colonel Hatfield is a graduate of Squadron Officer School, the Armed Forces Staff College, and the Air War College, class of 1988.

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CHAPTER I

THEORY OF PSYCHOLOGICAL TYPE

Introduction

The understanding and knowledge of psychological type as determined by the Myers-Briggs Type Indicator (MBTI) is an important tool for effective leadership and command in the military. With the complexity and high technology of future warfare, there is a need for leaders to be innovative and creative to adapt to changing situations and release the human potential of followers. This paper will analyze the MBTI and the predominant psychological types of senior officers attending the Air War College (AWC) and assess the implications for future Air Force senior leadership. It will examine the ideal traits desired of top leaders of organizations and how they may differ from the characteristics possessed by these predominant types of leaders at the AWC. It will then discuss the organizational culture of the Air Force and the creation of the proper organizational culture as the key to fostering the ideal leadership required for future success. The paper will conclude with proposed applications of how psychological type (MBTI) can be used in all phases of career management to improve the effectiveness of Air Force organizations by developing the leadership to establish an innovative culture.

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MBTI

The MBTI is based on the theory of psychological type espoused by Swiss psychologist Carl Jung in 1921 and was developed by the mother-daughter team of Katherine Briggs and Isabell Briggs Myers beginning in the 1940s. The MBTI measures preferences on perception, judgment, interests, values, needs, and motivation. These preferences are quantified on four preference scales: Extraversion (E) or Introversion (I), Sensing (S) or Intuition (N), Thinking (T) or Feeling (F), and Perception (P) or Judging (J). (22:2) These preferences can be summarized as follows:

> Extroverts are oriented toward the outer world of people and things, introverts toward the inner world of ideas and feelings. Sensing types sniff out detail, while intuitive souls prefer to focus on the big picture. Thinkers want to decide things logically and objectively; feelers base their decision on more subjective grounds. Perceiving types tend to be flexible and to seek more information, while the judging sort want to get things settled. (19:74)

The frequency of the four preference scales can be estimated for the general population: E (75%) versus I (25%); S (75%) versus N (25%); T (50%) versus F (50%); and J (50%) versus P (50%). (8:25) From the combinations of these four preferences, 16 possible personality types can be established. They are outlined in the Type Table in Table 1.

TABLE 1

CHARACTERISTICS FREQUENTLY ASSOCIATED WITH EACH TYPE

	SENSING TYPES		INTUITIVE TYPES	
INTROVERTS	**ISTJ**	**ISFJ**	**INFJ**	**INTJ**
INTROVERTS	**ISTP**	**ISFP**	**INFP**	**INTP**
EXTRAVERTS	**ESTP**	**ESFP**	**ENFP**	**ENTP**
EXTRAVERTS	**ESTJ**	**ESFJ**	**ENFJ**	**ENTJ**

Source (20:7-8)

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To further explain the type theory, the way people prefer to use their mental processes can be divided into perception and judgment. Perception is the process by which a person becomes aware of things, people, events, and ideas. Judgment includes the process by which people make decisions about what is perceived. (15:105) Two different ways of perceiving are through sensing (S) where you become aware through the five senses, and intuition (N) where you become aware of ideas through the unconscious in hunches. Likewise, two different ways of judging are by thinking (T) where a logical analytical process is used, and by feeling (F) where a more personal, subjective approach is used. (15:105)

To further understand the dynamics of type, it is important to recognize the priorities and direction of each of the four preferences. Each type has a preferred perceiving function which will be either sensing or intuition (S or N) and a preferred judging function which will be either thinking or feeling (T or F). (28:2) Among these preferences, one is dominant or is the favorite approach, and one is auxiliary or is the second choice. This dominant and auxiliary function forms the core of the psychological type. (6:26) The third function of type is the opposite of the auxiliary, while the fourth is the opposite of the dominant function. (6:26) In summary, the

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dominant function represents the approach one relies upon most, while the fourth is inferior or least developed. Table 2 lists the priority of the functions for each of the 16 types.

The strength of an individual's preference for each of the four functions of the type is indicated by the scores from answering questions on the MBTI. Table 3 is a Report Form for the MBTI. The higher the number is for each preference means the stronger and more consistent that preference is over its opposite function. However, the score itself does not indicate how developed the function is or the skill with which the individual uses the function. (28:16) Finally, it should be noted that the maximum scores for the four functions are not uniform. The following are the maximum scores for the four functions: sensing is 67, intuition is 51, thinking is 65, and feeling is 43 for women and 37 for men. (28:16) The significance of these scores on the MBTI means that differences exist within type based on the strength of each individual's preferences. However, the descriptions of each type can be used as a general guide to the way a person perceives a situation and makes judgments on a course of action.

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TABLE 2

Priorities and Direction of Functions in Each Type

	ISTJ				ISFJ				INFJ				INTJ		
#1	DOMINANT	S	(I)	#1	DOMINANT	S	(I)	#1	DOMINANT	N	(I)	#1	DOMINANT	N	(I)
#2	AUXILIARY	T	(E)	#2	AUXILIARY	F	(E)	#2	AUXILIARY	F	(E)	#2	AUXILIARY	T	(E)
#3	TERTIARY	F	(E)	#3	TERTIARY	T	(E)	#3	TERTIARY	T	(E)	#3	TERTIARY	F	(E)
#4	inferior	N	(E)	#4	inferior	N	(E)	#4	inferior	S	(E)	#4	inferior	S	(E)

	ISTP				ISFP				INFP				INTP		
#1	DOMINANT	T	(I)	#1	DOMINANT	F	(I)	#1	DOMINANT	F	(I)	#1	DOMINANT	T	(I)
#2	AUXILIARY	S	(E)	#2	AUXILIARY	S	(E)	#2	AUXILIARY	N	(E)	#2	AUXILIARY	N	(E)
#3	TERTIARY	N	(E)	#3	TERTIARY	N	(E)	#3	TERTIARY	S	(E)	#3	TERTIARY	S	(E)
#4	inferior	F	(E)	#4	inferior	T	(E)	#4	inferior	T		#4	inferior	F	(E)

	ESTP				ESFP				ENFP				ENTP		
#1	DOMINANT	S	(E)	#1	DOMINANT	S	(E)	#1	DOMINANT	N	(E)	#1	DOMINANT	N	(E)
#2	AUXILIARY	T	(I)	#2	AUXILIARY	F	(I)	#2	AUXILIARY	F	(I)	#2	AUXILIARY	T	(I)
#3	TERTIARY	F	(I)	#3	TERTIARY	T	(I)	#3	TERTIARY	T	(I)	#3	TERTIARY	F	(I)
#4	inferior	N	(I)	#4	inferior	N	(I)	#4	inferior	S	(I)	#4	inferior	S	(I)

	ESTJ				ESFJ				ENFJ				ENTJ		
#1	DOMINANT	T	(E)	#1	DOMINANT	F	(E)	#1	DOMINANT	F	(E)	#1	DOMINANT	T	(E)
#2	AUXILIARY	S	(I)	#2	AUXILIARY	S	(I)	#2	AUXILIARY	N	(I)	#2	AUXILIARY	N	(I)
#3	TERTIARY	N	(I)	#3	TERTIARY	N	(I)	#3	TERTIARY	S	(I)	#3	TERTIARY	S	(I)
#4	inferior	F	(I)	#4	inferior	T	(I)	#4	inferior	T	(I)	#4	inferior	F	(I)

Source (22:18)

TABLE 3

Report Form for Myers-Briggs Type Indicator™

Name _____ Sex: M☐ F☐ Age _____ Other _____ Date _____

PREFERENCE STRENGTHS

POINTS FOR

EXTRAVERSION
SENSING
THINKING
JUDGING

60   40   20   0   20   40   60

TYPE

POINTS FOR

INTROVERSION
INTUITION
FEELING
PERCEPTIVE

Indicator questions deal with the way you like to use your perception and judgment, that is, the way you like to go about deciding things. The answers given reflect four separate preferences called EI, SN, TF and JP. The profile above shows your score on each preference. The four letters of your "type" tell how you came out on all four preferences. What each preference means is shown below.

E An E for extraversion probably means you relate more easily to the outer world of people and things than to the inner world of ideas.

S An S for sensing probably means you would rather work with known facts than look for possibilities and relationships.

T A T for thinking probably means you base your judgments more on impersonal analysis and logic than on personal values.

J A J for the judging attitude probably means you like a planned, decided, orderly way of life better than a flexible, spontaneous way.

I An I for introversion probably means you relate more easily to the inner world of ideas than to the outer world of people and things.

N An N for intuition probably means you would rather look for possibilities and relationships than work with known facts.

F An F for feeling probably means you base your judgments more on personal values than on impersonal analysis and logic.

P A P for the perceptive attitude probably means you like a flexible, spontaneous way of life better than a planned, decided, orderly way.

Each combination of preferences tends to be characterized by its own set of interests, values and skills. On the back of this page are very brief descriptions of each type. Find the one matching your four letters and see whether or not it fits you. If it doesn't, try to find one that does. Whatever your preferences, of course, you may still use some behaviors characteristic of contrasting preferences, but not with equal liking or skill. This tendency may be greater if preference strength on a scale is low (under 15). For a more complete discussion of the types and their vocational and personal implications, see *Introduction to Type* by Isabel Briggs Myers, or consult your counselor.

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Source (21:1)

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Temperament

Using the theory of psychological type from Jung and Myers, David Kiersey and Marilyn Bates developed the concept of temperament which uses the type descriptions as predictors of behavior. Kiersey and Bates said, "By knowing a person's type, we can anticipate rather accurately what he will do most of the time." (8:27)

To understand the behavior of people as exhibited by their preferences, they identified four temperaments which are SJ, SP, NF, and NT. (8:30) These temperaments can be defined as "that which places a signature or thumbprint on each of one's actions, making it recognizably one's own." (8:27) It can also be looked at as the leadership style of an individual.

The SJ leaders are the traditionalists, stabilizers, and consolidators. (8:138) They include the ESTJ, ISTJ, ESFJ, and ISFJ types. SJ's comprise roughly 38 percent of the population. (8:39) They have a hunger for belonging and for contributing. Their focus is on the hierarchy of the organization, and their values are caution, carefulness, and accuracy of work. Their pitfalls as managers include being impatient when projects get delayed, deciding issues too quickly, being overly concerned with dire happenings, and believing hard and long work is the way to success.

(7:14) The SJs' unique contribution is to lend stability
and confidence. (8:152)

The SP leaders are the troubleshooters, negotiators,
and firefighters. (7:15) They include the ESTP, ISTP,
ESFP, and ISFP types. SPs, like the SJs, comprise about 38
percent of the population. (8:39) Their primary hunger is
for freedom, spontaneity, and action. Their focus is on the
expedient needs of the organization, and their values
include flexibility, change, taking risks, and action.
Their pitfalls as managers are they are hard to predict,
become impatient with theory and abstraction, shoot from the
hip, and ignore the past and its implications for the
future. (7:15) The SPs make excellent problem solvers and
lend excitement. (8:152)

The NT leaders are visionary, architects of systems,
and builders. (7:17) They include the ENTJ, INTJ, ENTP,
and INTP types. NTs only make up about 12 percent of the
population. (8:47) Their primary hunger is for competency
and knowledge. Their focus is on the mission and systems of
the organization, and their values are competence,
intelligence, complexity, and principles. Their pitfalls as
managers include great strengths and great weaknesses, lack
of execution after the design phase, tendency to escalate
standards, and being impatient with human concerns. (7:17)

The unique contribution of the NTs is to provide vision and theoretical models for change. (8:152)

The NF leaders are catalysts, spokespersons, and energizers. (7:16) They include the ENFJ, INFJ, ENFP, and INFP types. NFs, like the NTs, also comprise about 12 percent of the population. (8:60) Their primary hunger is for a search for self, for identity, for meaning, and for authenticity. Their focus is on the growth needs of the organization, and their values are autonomy, cooperation, harmony, and self-determination. Their pitfalls as managers include sweeping problems under the rug, playing favorites, placing others' priorities before their own, and being too anxious to please. (7:16) The unique contribution of the NF is to lubricate the interpersonal operations of the organization and to predict the social consequences of the NT's theoretical models. (8:153) **Table 4** outlines the major facets of the temperaments of each of the four leadership styles.

TABLE 4

LEADERSHIP STYLES

NF

Search for meaning and authenticity
Empathetic
See possibilities of institutions
  and people
Communicate appreciation, enthusiasm,
  approval
Highly responsive to interpersonal
  transactions
Keep in close contact with staff
Highly pesonalized
Give and need strokes freely

NT

Hunger for competency and knowledge
Work well with ideas and concepts
Intrigued and challenged by riddles
See systematic relationships
Focus on possibilities through
  impersonal analysis
Like to start but not finish
  projects
Not always aware of others'
  feelings
Responsive to new ideas

SJ

Hunger for belonging and contributing
Prize harmony and service
Orderly, dependable, realistic
Understand and conserve institutional
  values
Expect others to be realistic
Supply stability and structure
More likely to reward institutionally
  rather than personally (trophies,
  letters, etc.)
Can be critical of mistakes more easily
  than rewarding of expected duties

SP

Hunger for freedom and action
Deal with realistic problems
Flexible, open-minded
Willing to take risks
Highly negotiable
Can be perceived as indecisive
Challenged by "trouble spots" but
  long term
Best at verbal planning and short-
  range projects

Adapted from Bates/Keirsey, "Please Understand Me" Kroeger/Snider - 1979

Source (9:1)

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CHAPTER II

ANALYSIS OF PSYCHOLOGICAL TYPE

Analysis

The MBTI questionnaire has been administered to the last two classes of the AWC in 1987 and 1988. The results of both classes have been quite consistent. The predominant psychological types of the senior officers attending are the ISTJs (29 percent) and ESTJs (23 percent) which comprise over half of the officers. The next largest types are the ENTJs at 11-12 percent and the INTJs at 8-9 percent. The ENTPs, co isting of 6-7.5 percent, is the largest perceptive type, while the ESFJs, the largest feeling type, ranged from 3-5 percent. **Tables 5 and 6** break down the results by the 16 different categories in the type tables.

Although there are significant differences within types based on the strength and exercise of the individual preferences, the MBTI provides characteristics of each type which can be used as a general guide. (22:55) The ISTJ is a traditionalist who is dependable, resourceful, detailed, faithful to duty, ritualistic, and doesn't take chances. (8:190-191) The ESTJ is an organizer who likes rules and procedures, is realistic, is loyal to his institution, and cannot understand those who wish to radically change it. (8:189)

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TABLE 5

AWC Class of 87
and Faculty

	SENSING TYPES		INTUITIVE TYPES	
	with THINKING	with FEELING	with FEELING	with THINKING

ISTJ N = 80 % = 29	**ISFJ** N = 12 % = 4	**INFJ** N = 6 % = 2	**INTJ** N = 26 % = 9
ISTP N = 6 % = 2	**ISFP** N = 0 % =	**INFP** N = 1 % = .3	**INTP** N = 7 % = 2
ESTP N = 13 % = 5	**ESFP** N = 1 % = .3	**ENFP** N = 4 % = 1	**ENTP** N = 16 % = 6
ESTJ N = 63 % = 23	**ESFJ** N = 8 % = 3	**ENFJ** N = 3 % = 1	**ENTJ** N = 32 % = 12

JUDGING — INTROVERTS — PERCEPTIVE — PERCEPTIVE — EXTRAVERTS — JUDGING

N	%
E 140	50.3
I 138	49.7
S 123	65.8
N 95	34.2
T 243	87.4
F 35	12.6
J 230	82.7
P 48	17.3

IJ Decisive Intoverts
IP Adaptable Introverts
EP Adaptable Extroverts
EJ Decisive Extroverts

ST Practical & Matter-of-Fact
SF Sympathetic & Friendly
NF Enthusiastic & Insightful
NT Logical & Ingenious

SJ Realistic Decision Makers
SP Adaptable Realists
NP Adaptable Innovators
NJ Visionary Decision Makers

TJ Logical Decision Makers
TP Adaptable Thinkers
FP Gentle Types
FJ Benevolent Administrators

IN Thoughtful Innovators
EN Action Oriented Innovators
IS Thoughful Realists
ES Action Oriented Realists

ET Action Oriented Thinkers
EF Action Oriented Cooperators
IF Reflective Harmonizers
IT Reflective Reasoners

GROUP TYPE: ESTJ

MODAL TYPE: ISTJ

Source (18:1)

AWC Class of 88

SENSING TYPES		INTUITIVE TYPES				N	%
with THINKING	with FEELING	with FEELING	with THINKING		E	137	54.2
ISTJ	**ISFJ**	**INFJ**	**INTJ**		I	116	45.8
N = 75	N = 4	N = 1	N = 21				
% = 29.6	% = 1.6	% = .4	% = 8.3	JUDGING	S	172	68.0
					N	81	32.0
					T	225	89.0
					F	28	11.0
ISTP	**ISFP**	**INFP**	**INTP**		J	204	80.6
N = 6	N = 2	N = 1	N = 6		P	49	19.4
% = 2.8	% = .8	% = .4	% = 2.4	PERCEPTIVE	I J		
					I P		
					E P		
					E J		
					S T		
					S F		
ESTP	**ESFP**	**ENFP**	**ENTP**		N F	7	2.8
N = 10	N = 2	N = 3	N = 19		N T	74	29.3
% = 4	% = .8	% = 1.2	% = 7.5	PERCEPTIVE			
					S J	152	60.1
					S P	20	7.9
					N P		
					N J		
ESTJ	**ESFJ**	**ENFJ**	**ENTJ**		T J		
N = 60	N = 13	N = 2	N = 28		T P		
% = 23.7	% = 5.1	% = .8	% = 11.1	JUDGING	F P		
					F J		
					I N		
					E N		
					I S		
					E S		

Source (18:1)

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The primary leadership style of the predominant types at the AWC is SJ (Sensing Judging). They represent 60 percent compared to 38 percent in the general population. This style is characterized overall by being stablizers and traditionalists who have a hunger for belonging and contributing. Their strengths are that they are super dependaole, decisive decision makers, understand the values of the organization and try to conserve them, want organizations run on solid facts, and like well planned activities. (10:1) Their weaknesses are that they are perfection seekers, not as responsive to change--especially in times of rapid change-- and are overconcerned with the possibility of things going wrong. (10:1-2)

As part of the management team, SJs contribute a smooth running system by establishing efficient policies and procedures. They are excellent organizers and are resourceful. In working with people, they are factual and realistic. (10:2) Major pitfalls are that they are rigid, over stress detai's, concentrate on the negative not the positive, and are upward accountable to the views of their boss or the system. (13:1)

Assessment

Overall, in assessing the ISTJs and ESTJs, they are good organizers and take-charge leaders who provide an efficient and orderly system. However, certain weaknesses

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of these types present implications for future leadership of the Air Force in both command and staff positions during peacetime and during combat in the rapidly changing environment of future warfare.

The most certain aspect of the future is change. According to Alvin Toffler in Future Shock, change is a societal disease that is rapidly accelerating. (30:2) The effectiveness of the Air Force in the future may depend upon the ability to cope with these future changes. However, two of the major weaknesses of the ISTJs and ESTJs are a resistance to change and risk aversion. These two characteristics may preclude being innovative to adapt to the changing environment. This is reinforced by the fact that from examining Table 2, intuition is the inferior or last preference of the ISTJs and the tertiary preference of the ESTJs. Therefore, unless the intuition ability has been developed by the leader, the implications are that the ISTJ and ESTJ will tend not to see the need for new ideas and change accordingly.

As traditionalists, these leaders encourage conformity and the ways of the past. By being sensers, they rely upon facts that can be seen, heard, and felt. They judge or make decisions by thinking using logical, analytical reasoning. They create an organizational culture which tends to "attract and retain linear and sequential

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thinkers who relish certainty and conformity." (16:16) In
an environment of rapid, continuous change to meet the
challenge in modern warfare, we need creative thinkers who
can sense intuitively. However, the population of
intuitives at the AWC represents only 32-34 percent which is
about half of the sensing types at 66-68 percent. Carl B.
Rogers, a noted psychologist, said:

> . . . in a time when knowledge, constructive and
> destructive, is advancing by the most incredible leaps
> and bounds into a fantastic atomic age, . . . genuinely
> creative adaption seems to represent the only
> possibility that man can keep abreast of the
> kaleidoscopic change in his world. (16:16)

The next section will examine the ideal traits
desired of top leaders of organizations and see how they may
differ from the characteristics possessed by the predominant
type of senior officers at the AWC.

CHAPTER III

PSYCHOLOGICAL TYPE AND SENIOR LEADERSHIP

In today's complex technological, changing world, the role of the military leader has expanded and become more demanding. During combat, the conflict spectrum ranges from low intensity conflict to strategic nuclear war. During peacetime, the competition for resources for sustainability, readiness, and modernization of the force is essential. There is a need for both warrior-leaders and manager-leaders to meet these challenges. Warrior-leaders are needed to fight and win wars, and manager-leaders are needed to create and maintain the force. (34:52)

Warrior-Leaders

Field Manual 100-5, Operations, which outlines the doctrine for the Army's AirLand Battle states, "The most essential element of combat power is competent and confident leadership. Leadership provides purpose, direction, and motivation in combat." (33:13) In order for this doctrine to succeed requires coordinated mission support from the Air Force component of the joint operation. AFM 1-1, Basic Aerospace Doctrine of the United States Air Force, says "how men use machines in the combat environment, and the spirit of leadership that guides that use, spell victory or defeat." (32:2-4)

The US Army Command and General Staff College compiled the following list of characteristics the optimum leader must possess for AirLand Battle: initiative, enthusiasm, technical and tactical competence, willingness to take risks, integrity, team player and ability to communicate clearly. (3:58) These same traits are essential for leaders of the Air Force to meet the changing, dynamic nature of future warfare. Two of these traits are important because they were weaknesses of the ESTJ and ISTJ predominant AWC officers. The first weakness is because of a resistance to change, they lack the initiative or the ability to be creative and flexible to take advantage of rapidly changing situations; the second weakness is less willingness to take risks or to do the right thing rather than the expedient. When these two weaknesses are combined, they could be major drawbacks for future Air Force mission accomplishment.

Manager-Leaders

Roy Rowan, author of the Intuitive Manager, lists the attributes of the creative leader most corporations seek. They are farseeing, introspective, impressionable, independent, decisive, practical, upbeat, lucky, and flexible. (26:170-171) He says that leaders must be transformational barrier breakers and not transactional managers who are caretakers and keep their organizations

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going smoothly. (26:170) Most organizations want visionary leaders to inspire belief in the future. Rowan feels that the future leaders must be more entrepreneurial, bigger risk-takers, and more highly intuitive. (26:184) Although the ISTJs and ESTJs, which represent the predominant types of senior officers at the AWC, possess the characteristics of introspective, independent, decisive, and practical, they tend to be less farseeing, impressionable, upbeat, and flexible. The adaptable innovators, as represented by the perceptive, intuitive types of INTP and ENTP, make up only 8 percent of the population.

In a survey by *Fortune* magazine, a group of executive recruiters listed the key characteristics of candidates for potential chief executive officers (CEOs). Some of these required attributes are that the top leader must be action-oriented, has to have effectively managed change, possess the ability to build a sense of shared values, and have the vision of where the organization should be going. (24:18)

An international management consultant firm stated that the principal role of the CEO in a corporate setting is to provide leadership to set objectives and allocate resources to meet the goals. (4:24) The military commander and leader plays this same role in the military organization. However, the environment today is more

complex and requires quicker decision making than in the past. A true leader is alert to risks and is ready to react swiftly. (4:24)

Ideal Leaders

To be successful leaders in the demanding environment of today and the more complex environment of tomorrow, the ideal leader should possess the following eight personal characteristics:

1. The ability to focus attention--dedicated to a vision, communicate the vision, create commitment, and effect the necessary change.

2. Emphasis on simple values--articulate basic values to provide a framework for decision making, provide guidance to the organization, and insure everyone plays a part in the overall success.

3. Stays in touch with people--not aloof and remote.

4. Avoids pseudoprofessionalism--applies long-term planning not short-term fads.

5. Manages change--makes the vision happen by building organizational support and dealing with risk.

6. Selects people--identifies and retains talented subordinates.

7. Avoids do-it-allism--pays attention to a few key indicators, spots potential problems early, and

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selects future oriented leaders to manage to the
vision.

8. Faces up to failure--recognizes setbacks and accepts
   blame for failure, but knows when to get out of
   marginal situations and develops a long-term merit-
   driven organization. (4:24-25)

Assessment

In assessing the predominant ISTJ and ESTJ types of
AWC officers, although capable of possessing most of the
ideal characteristics, two traits show potential drawbacks.
The first is the ability to focus attention on a vision, and
the second is managing change by dealing with risk. These
characteristics would be more prevalent in the NT type of
leader. However, this type is representative in only about
29 percent of the officers.

Jung's research indicates that those skilled in the
use of intuition have decision-making skills not normally
possessed by others. (1:6) Intuitive managers can see new
possibilities in any situation. They have a vision of the
future and are better able to move their organizations in
response to change. They can generate new ideas and provide
creative solutions to old problems. Usually, this type
functions best in rapidly changing environments. (1:6)

There is evidence that different skills and
abilities of leadership are required at different levels.

Norm Dixon in <u>On the Psychology of Military Incompetence</u>
pointed out the failure to recognize the changing
requirements for leadership at different levels can have
unfortunate consequences. (34:53) This different-skills-
at-different-levels concept may be recognized by the Air
Force in selection for general officer. In analyzing MBTI
data on 13 Air Force generals, the mix of sensers versus
intuitives was seven to six and the leadership styles were
six SJs versus five NTs with one each NF and SP represented.
(11:1) Although this is a relatively small sample, the
implications for Air Force senior leadership to be
innovative and adapt to change may be offset at the higher
ranks by selection of more intuitive officers.

The next section will examine the Air Force
organizational culture and discuss the creation of the
proper organizational culture as the key to foster the ideal
leadership required for future success.

CHAPTER IV

PSYCHOLOGICAL TYPE AND ORGANIZATIONAL CULTURE

A view sometimes asserted by members of the public is of a negative picture of the military. The military mind is sometimes characterized by "unconventional thinking, lack of imagination, unwillingness to challenge accepted doctrine, excessive caution, professional pessimism, narrowness of outlook, and subservience to views of higher authority." (17:39) Discipline, conformity, teamwork, tenacity, and loyalty are required elements of an effective military organization. However, the successful pursuit of modern air warfare also requires another essential ingredient to meet the uncertainty and changes of the future: innovation. (17:42) As a complement to the normal military virtues, the powers of innovation associated with independence of thought, individuality, imagination, and initiative are also essential in a successful military environment. (17:42) This is necessary because in the Clausewitzian concept of the fog and friction of war, the leader must rely on his own resourcefulness, ingenuity, flexibility, initiative, and common sense. (17:41)

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Air Force Organizational Culture

Based on the analysis of the psychological types of the AWC classes which were predominantly ISTJ and ESTJ, the organizational culture of the Air Force can be categorized as SJ or sensing judging. This leadership style comprised about 60 percent of the officers. Assuming that these officers will be the senior leaders of the Air Force, the organizational emphasis, values, and goals can be predicted.

SJ organizations emphasize specific factual details that can be processed by the senses. They make decisions on these facts by impersonal analysis because they judge by using thinking with its analytical process of reasoning. (20:3) Being stabilizers, they stress physical features of the work environment, and they like control and certainty with jobs specifically defined. (7:28a) Because feeling is one of their least developed functions, they emphasize work roles rather than the worker. Their temperament as traditionalists drives them to focus on organizational goals and accountability to the hierarchy. (7:28a) SJ organizations value tough-minded people who can get others to do the job, and they set goals that are realistic down-to-earth, and economical. (7:28a)

An SJ organization has a tendency to resist change. As stabilizers and traditionalists, they like to do things the way they were previously done. (8:139) They tend to

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focus on procedural matters and ways of doing things. They also like the security provided by clearly defined lines of authority. (8:154) SJs are likely to use their authority to conserve and perpetuate the institution which they serve. (8:43)

Analyzing the MBTI results in Tables 5 and 6, the Air Force culture differs radically from the distributions in the general population except for SN where their 67 percent to 33 percent average approximates the 75 percent to 25 percent population frequency. The culture is heavily TJ oriented. Whereas the general population is 50 percent to 50 percent on the TF and JP preferences, the AWC averaged 88 percent to 12 percent on TF and 82 percent to 18 percent on JP. The implications are twofold. First, as thinkers, decisions are made impersonally and sometimes without sufficient attention to people's feelings. Second, as judgers, they like to get things settled and closed.

Looking at the distribution of temperaments, radical differences from the general population also exist. The organization is heavily skewed towards the SJs, which comprise 60 percent versus 38 percent of the general population, and NTs, which are 29 percent versus 12 percent. The SPs and NFs are a small minority, making up 8 and 3 percent respectively, as opposed to 38 and 12 percent in the general population.

The psychological type data for the National Defense University (NDU) Class of 1987 was analyzed for comparison to the AWC types and temperaments. (12:1-2) **Table 7** presents the comparison. Commonality existed between the data with NDU also being predominantly ISTJ (28 percent) and ESTJ (21 percent) with the SJs comprising 53 percent. The major difference was in the increase in the intuitives with a SN mix of 59 to 41 percent compared to 67 to 33 percent at the AWC. The NTs were also more prevalent with 36 percent versus 29 percent at the AWC. The SPs and NFs at NDU made up approximately the same 11 percent as at the AWC with an almost even split of 5.4 percent and 5.2 percent respectively. Looking at the functional preferences, TJs once again dominated. The TF distribution was 89 percent to 11 percent, and the JP distribution was 79 percent to 21 percent This compares to the 88 to 12 percent for TF and 82 to 18 percent JP frequency at the AWC. Therefore, the SJ leadership style and ISTJ type appears to be the classical military profile for the other services as well as the Air Force.

One implication for senior Air Force leadership is a potential conflict between managers with different leadership styles in trying to implement the proper organizational culture. SJs are rigid, sequential thinkers who desire closure on situations in the present. NTs are

TABLE 7

Comparison of Types and Temperaments
AWC vs NDU vs Population

Functional Preferences	AWC	NDU	Population
E	52%	45%	75%
I	48%	55%	25%
S	67%	59%	75%
N	33%	41%	25%
T	88%	89%	50%
F	12%	11%	50%
J	82%	79%	50%
P	18%	21%	50%

Predominant Types

	AWC	NDU	Population
ISTJ	29%	28%	6%
ESTJ	23%	21%	13%

Temperaments

	AWC	NDU	Population
SJ	60%	53%	38%
NT	29%	36%	12%
SP	8%	5.4%	38%
NF	3%	5.2%	12%

Source (18:1 and 12:1-2)

open-ended, creative thinkers who desire to see the possibilities for innovative changes in the future. The SJs need to perpetuate the institution, and their desire for certainty and conformity discourage the creativity of the NT. This situation may drive the intuitive thinker from the organization. The SP adaptive problem solvers and the NF people-oriented catalysts are small minority groups which may not survive in the SJ culture.

Another major implication is that the SJ organizational culture may be less apt to adapt to the rapidly changing environment of future warfare. They also may not provide the vision in peacetime to create the force and doctrines to meet the uncertainty of future threats. Barriers to creativity and innovation which are caused by organizational culture could preclude solutions to the tough challenges of tomorrow.

Creation of an
Innovative Organizational Culture

The creation of a favorable organizational culture is the most important factor in encouraging innovation. Peters and Waterman in In Search for Excellence found that innovative organizations are especially adroit at responding to changes in their environments. (23:12) They cited eight attributes of excellent innovative organizations:

1. A bias for action--get on with it.

2. Close to the customer--learn from the people they serve.

3. Autonomy and entrepreneurship--foster many leaders and innovation, encourage practical risk-taking, and accept a reasonable number of mistakes.

4. Productivity through people--respect for individuals and treat people as the root source of quality and productivity.

5. Hands-on, value driven--basic philosophy of the organization causes achievements.

6. Stick to the knitting--stay close to the business one knows.

7. Simple form, lean staff--simple organizational structure with small staffs.

8. Simultaneous loose-tight properties--both centralized around core values and decentralized operations. (23:13-16)

To search for excellence in the Air Force, senior leadership must identify and implement an environment conducive to innovation. Arthur D. Little in its report, Management Perspectives on Innovation, concludes that "creating a favorable climate is the most important single factor in encouraging innovation." (31:58) Another draft technical report on Creativity in the R & D Laboratory, states "environmental factors are more powerful than

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personal qualities--including cognitive abilities at the
higher ranges--in producing innovative solutions." (31:58)
In turn, innovation then produces the calculated risk taking
and creative problem solving needed for superiority in
modern warfare.

Key Senior Leadership Actions Required

The key to establishing the proper organizational
culture is leadership. To release the potential of those in
the system, a supportive climate must be developed which
stresses decentralization, trust, and clarity of
organizational vision. Senior leadership must create and
communicate the vision, build supportive systems, eliminate
nonessential requirements, overwatch the evaluative methods,
and exemplify the values. (31:58) NTs are best suited to
be visionaries and builders of the required systems.

Leaders can establish and transmit the proper
organizational culture by their actions and how they are
perceived by others. Primary methods for cultural
reinforcement can be summarized as follows: what leaders
pay attention to, measure, and control; leader reactions to
organizational crises; role modeling and teaching of others;
criteria for rewards and status; and criteria for selection
and promotions. (27:6)

Senator Jeff Bingaman (D-NM) has recognized the
requirement to redefine the job of the career public manager

to encourage future leaders to take risks and be innovative.
(2:50) SJs are less apt to be risk takers with NTs being
innovative and the SPs being adaptive. Bingaman uses
examples of the intrapreneural tradition of IBM and 3M which
provide support and give autonomy to be innovative with
little interference. He further cites the need for
government leaders to be proactive, communicate objectives
to the public, and develop an excellence to be as efficient
and effective as possible. (2:50)

A survey of followers to identify qualities of
leaders with high satisfaction and productivity shows that
they have a style which differs from less effective leaders.
In thinking, they have a different role from those they
lead. In feeling, they care about people and getting the
job done. In actions, they tell people what is expected and
then evaluate them on what they do, not on how they feel
about them. (14:30)

In order to develop the proper culture in
subordinates, senior officers can follow ten steps which
will create an innovative environment.

1. Set the example--be a role model, technically
   competent, and act consistently.

2. Communicate clearly both ways--give the big picture,
   establish priorities, and communicate values.

3. Require and reward initiative--foster it and you
   will get it.

4. Manage resources--so subordinates have stability to
   train and develop people.

5. Set and enforce standards--establish realistic
   standards and hold people to them; reward those who
   meet them and relieve those who don't.

6. Coach and teach--allow mistakes, but teach them the
   basics and how to think.

7. Accept risks yourself--be an insulator while
   encouraging growth of your subordinates.

8. Power down--train the chain of command.

9. Conduct repetitive, exact training--be innovative
   and realistic and develop leaders.

10. Develop a climate of trust and confidence--maintain
    people orientation with trust and loyalty. (3:59-
    61)

Leaders control the organizational culture and are
the key to an innovative environment. Senior leaders can
make the organization more receptive to creativity by
several actions. They can loosen the structure, leave
people to their own devices, provide more local autonomy,
encourage intrapreneurship, and give people with ideas a
chance to see if they work. (25:52)

The next section will examine proposed applications
of psychological type (MBTI) and show how it can be used in
all phases of career management to develop the leadership to
establish an innovative organizational culture.

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CHAPTER V

USING MBTI TO DEVELOP LEADERSHIP

TO SUPPORT A MODIFIED CULTURE

Psychological type as determined by the MBTI can be applied in all phases of officer career management to improve the effectiveness of Air Force organizations. MBTI offers many benefits to the organization. First, it offers a logical and orderly model of human behavior. Administratively, it is based on easily understood theory and is quick and cost effective to administer. Individually, MBTI identifies strengths and weaknesses of individual leadership styles. Organizationally, it builds an understanding of the organizations's norms and culture while providing an objective framework for dealing with conflict or differences between types of people. (7:1) Proposed applications include the gamut from career development, management development, team building, and creative problem solving.

First, MBTI can be used in career development to determine people's satisfaction with their job choice and their preferred work and people environment. (6:39) Research at Brandeis University confirms that specific detectable patterns of individual personality and tastes increase the likelihood that an individual will enter a

given occupation. (5:412) The MBTI could be administered on accession or during the initial duty assignment. The knowledge gained by the individuals of their individual preferences and the general characteristics of each psychological type could help them better see if they are satisfactorily suited for their job. In order to utilize their potential to the maximum extent, cross training or career transfers could be applied for on the individual's next job rotation.

Second, the MBTI can be used as a management development tool. It is proposed that the MBTI be administered at all levels of Professional Military Education (PME) including Squadron Officer School, Air Command and Staff College, and the Air War College. The results can be used in the command and leadership portions of the curriculum as a self-assessment of individual leadership styles, strengths and weaknesses of their type, and to recognize the different views and contributions of people with different psychological types. (6:32) MBTI could also be helpful in a better understanding of self to facilitate management development discussions of decision making, problem solving, and interpersonal communications.

Third, the MBTI can be used as a powerful tool in team building. It is proposed that MBTI results be used in identifying and selecting the right type of person for key

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staff and command positions. Major General Perry Smith says, "The Myers-Briggs Psychological Type Indicator is also useful in identifying individuals who are comfortable with long-range planning. Individuals who score high in the "judging" category tend to make good planners." (29:18) Another potential use would be to develop complementary command relationships between the Commander and the Vice Commander as well as additional Deputy Commanders for Operations and Maintenance. The MBTI could be used to identify strengths and weaknesses of the command team and to resolve problems between team members. (6:36) It is especially important in providing insight into the individual gifts and contributions that each member brings to meet the organization's mission and goals.

The fourth proposed application of MBTI is to be used as a tool for creative problem solving. As mentioned earlier, innovation or the ability to adapt to change is a critical asset for the successful pursuit of modern air warfare. One way to overcome this weakness is to develop creative skills through creative problem solving. MBTI can be used to show the perceptive, intuitive way to discover many possibilities, encourage brainstorming, and open the exchange of ideas rather than the critical judgment of finding flaws and conformity of traditional problem-solving approaches. (6:45) Through a greater understanding of the

creative process, the leader also should be more conducive
to fostering the organizational culture which will encourage
innovation and creativity which is necessary to meet the
challenges of future warfare.

CHAPTER VI

CONCLUSIONS

The understanding and application of psychological type as determined by the MBTI is an important tool for effective leadership in the Air Force. It provides a way for appreciating differences between individuals and the way each of us think and act. It provides greater understanding of leadership, which is the most essential element of combat power, and spells the difference between victory and defeat.

To meet the challenge of future warfare with its unparallelled complexity and rapidly changing technological environment, tomorrow's leaders will have to be innovative and creative to adapt to this environment. The future leader must be more visionary, a bigger risk-taker, and more intuitive. The creation of the proper organizational culture is the key to foster the ideal leadership required for future success. Leadership can and does make the difference by establishing the innovative culture which will release the human potential of followers.

The results of the MBTI given to AWC officers shows a predominance of over 52 percent who are traditional organizers (ISTJ and ESTJ) whose primary leadership style establishes an SJ (sensing judging) organizational culture. The major weaknesses of this group are being resistant to

change, having an aversion to risk, and being less capable of focusing on a vision. These characteristics would be more prevalent in the intuitive-thinking officers with the NT leadership style. However, this group only represents 29 percent of the class. The implication is that in the rapidly changing environment of the future, the leadership may be less apt to have the creativity or adaptability to meet the challenges of complex modern warfare.

The MBTI can be applied to all phases of management of the career officer force to improve the effectiveness of Air Force organizations. First, it is proposed that it be used in career development on accession or during the first term of assignment to insure satisfactory placement in job assignments. Second, it is proposed to be expanded at all PME schools as a management development tool for self-assessment of leadership styles. Third, MBTI is proposed to be used in team building to identify and match the right type of person in key command and staff positions. Last, the MBTI could also be used as a tool to develop more creative problem-solving techniques which will be helpful in establishing a more innovative culture to meet the challenges of the complex environment of future warfare.

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